

RECORD OF DECISION
FOR
CENTRAL PUGET SOUND REGIONAL TRANSIT AUTHORITY'S
(SOUND TRANSIT)
I-90 TWO-WAY TRANSIT AND HOV OPERATIONS PROJECT
KING COUNTY, WASHINGTON

SUMMARY AND PROCEDURAL BACKGROUND

Summary

The Federal Transit Administration (FTA) issues this I-90 Two-Way Transit and HOV Operations Project Record of Decision, finding that the requirements of the National Environmental Policy Act (NEPA) have been satisfied for the project creating two-way transit and high-occupancy vehicle (HOV) operations on Interstate 90 (I-90) between Bellevue and Seattle, Washington.

The Central Puget Sound Transit Authority (Sound Transit) and the Washington State Department of Transportation (WSDOT) will construct and manage the project. The locally preferred alternative for the project consists of two new HOV lanes on the outer roadways of I-90 and new HOV direct access exit ramps to Mercer Island. The ramps will serve outer roadway traffic in both directions.

The 2004 Environmental Impact Statement and FHWA Record of Decision

FTA has arrived at this ROD independently. In doing so, FTA has considered, among other things described below, the National Environmental Policy Act (NEPA) process in which Sound Transit and WSDOT disclosed and analyzed the potential significant environmental effects of the project and the reasonable alternatives to the project. In that NEPA process, the Federal Highway Administration (FHWA) was the lead agency and FTA served as a Cooperating Agency, which resulted in the *I-90 Two-Way Transit and HOV Operations Project Final Environmental Impact Statement* (Sound Transit, FHWA, and WSDOT) (May 2004) (EIS). FHWA issued the *I-90 Two-Way Transit and HOV Operations Project Record of Decision* (2004 ROD) in September 2004, and the Sound Transit Board of Directors and the Washington State Transportation Commission selected the Locally Preferred Alternative (LPA) in the fall of 2004. A 2007 re-evaluation by FHWA concluded that project modifications did not alter the findings of the EIS or 2004 ROD.

Sound Transit and WSDOT have been working on the project pursuant to the 2004 approval. The first stage of the project opened in 2008 with new westbound HOV lanes between Bellevue Way and 80th Avenue SE on Mercer Island and improved HOV access in Mercer Island and Bellevue; the second stage of the project began construction in April 2010 and adds a new eastbound HOV lane between Mercer Island and Bellevue. The decision supported by this current FTA Record of Decision applies only to the part of the project that involves an FTA action subject to NEPA, namely, FTA's funding of new HOV lanes in both directions of I-90 between Mercer Island and Seattle. FTA's decision therefore applies only to that third and final stage of the original I-90 Two-Way Transit and HOV Operations Project. While the construction of the new two-way transit and HOV lanes will provide roadway space for a light rail track if such a project is implemented, the two-way transit and HOV lane improvements under this ROD have utility independent of any light-rail usage.

DECISION

FTA hereby issues this I-90 Two-Way Transit and HOV Operations Project Record of Decision pursuant to 23 CFR Section 771.127, finding that the requirements of NEPA have been satisfied for the construction and operation of I-90 Two-Way Transit and HOV Operations Project by Sound Transit and WSDOT. The ROD also provides findings on other environmentally related federal statutory and regulatory requirements.

FTA has arrived at its decision independently. It is based in part on FTA's close monitoring and independent evaluation of the process followed by Sound Transit and WSDOT in setting forth and considering the effects of the project and the available alternatives. That process resulted in the *I-90 Two-Way Transit and HOV Operations Project Environmental Impact Statement (EIS)* and FHWA's subsequent *I-90 Two-Way Transit and HOV Operations Project Record of Decision (2004 ROD)*.¹ Further, in reaching its decision, FTA has obtained additional information updating the 2004 record with respect to the project, the affected environment, and changes to the regulatory setting.

This ROD describes the I-90 Two-Way Transit and HOV Operations Project, provides background on the project's development, describes the alternatives considered and the public's opportunity to comment, summarizes the public comments and responses thereto, explains the basis for FTA's decision, and sets forth the mitigation measures required as part of the decision. However, this summary does not supersede or negate any of the information, descriptions, or evaluations provided in the EIS. This document and the EIS, the 2004 ROD, the 2007 reevaluation, and additional information in FTA's files, which are incorporated herein by reference, constitutes the FTA environmental record for the project. The brief descriptions included in this ROD provide a summary of the basis for the decision.

BASIS FOR DECISION

Project purpose. The project purpose is to improve regional mobility by providing reliable and safe two-way transit and high-occupancy vehicle (HOV) operations on Interstate 90 (I-90) between Bellevue and Seattle, Washington, while minimizing impacts to the environment and to other users and transportation modes.

Project need. As one of only two routes across Lake Washington between Seattle and eastern King County, I-90 is vital to the success of the regional public transportation system. Buses on I-90 connect on the west to I-5 and downtown Seattle and on the east to I-405 and routes in Bellevue and Issaquah. As the directional split on I-90 has become more balanced during peak hours, congestion in the traditional reverse-peak direction increasingly creates delays and causes riders to miss connecting buses, diminishing the transit system's reliability and effectiveness.

¹ In reaching its decision, FTA also considered changes to the project design made by Sound Transit and WSDOT in 2007. The changes modified the existing reversible direct access ramp to the center roadway at 80th Avenue SE so it could connect to the new eastbound HOV lane in the outer roadway; revised the proposed eastbound HOV lane configuration where the center roadway merges into the eastbound outer roadway, across the East Channel Bridge; and extended an existing eastbound auxiliary lane westward to East Mercer Way. FHWA's NEPA reevaluation concluded that the changes did not substantially affect the analysis of the significant impacts and alternatives in the Final EIS and that no new probable significant environmental impacts would result, and confirmed that the EIS and 2004 ROD remained legally sufficient.

The segment of I-90 west of Issaquah is part of the region's HOV Core Lanes, the basic system of HOV lanes identified in the Puget Sound Regional Council's (PSRC) *Destination 2030 Metropolitan Transportation Plan* (2001) and *Transportation 2040 Metropolitan Transportation Plan* (May 2010). WSDOT's Freeway HOV System Policy allows consideration of two-directional separated HOV roadways when directional splits are relatively even, there is demand for ridesharing in both directions during peak hours, or there is a large volume of buses adversely affected by congestion in the off-peak hours or reverse-peak direction. Sound Transit's *Sound Move* and *Sound Move 2* plans identified the need to provide two-way transit and HOV operations on I-90 between I-5 and I-405 as part of the regional "HOV Expressway" system.

The completion of the I-90 Two-Way Transit and HOV Operations Project would also benefit the implementation of Sound Transit's proposed East Link Light Rail Transit Project (East Link) because it would allow the center roadway to be dedicated to light rail operation, if East Link should proceed. FTA, Sound Transit and WSDOT published the East Link Draft Environmental Impact Statement in 2008 and the East Link Supplemental Draft EIS in 2010. The East Link Final EIS is expected in 2011.

Other NEPA considerations. The EIS includes a record of the comments submitted on the DEIS and the responses to the comments. The EIS also includes consideration of, and findings related to, consistency with the Endangered Species Act, Magnuson-Stevens Act, the National Historic Preservation Act, the Clean Air Act, the Clean Water Act, Section 4(f) of the Department of Transportation Act, and Section 6(f) of the Land and Water Conservation Fund Act, and executive orders on environmental justice and floodplains, all of which are summarized below and detailed in the *I-90 Two-Way Transit and HOV Operations Project Environmental Impact Statement*. On the basis of FTA's consideration of all of these EIS findings, as well as the findings on the project's purpose and need, **FTA finds that the project has met all applicable standards and that this ROD is complete; and, further, FTA finds that the record supports the determination that all NEPA requirements have been met.**

RECORD OF DECISION PROJECT DESCRIPTION

The project for which this ROD is issued is identified as the Preferred Alternative, or Alternative R-8A, in the EIS. Following is a description of the project, a description of how the alternatives were developed and screened, and then a description of the alternatives that were not selected as the locally preferred alternative.

Project description

Identified in the EIS as Alternative R-8A, the alternative selected for the project would add a fourth lane (not a shoulder) to each of I-90's outer roadways for HOV use. It would also provide a wider westbound inside shoulder across the floating bridge to address concerns related to the ability to respond to incidents on the outer roadway. Also, the westbound roadway of the north floating bridge would be decreased by two feet in order to maintain the existing 10-foot width of the shared-use pathway. The center roadway would be reversible. Single-occupant vehicles could use the center roadway only between Seattle and Mercer Island. In the long term, high-capacity transit could occupy the center lanes. The outer roadways would be restriped and, where feasible, widened within the existing right-of-way to provide the additional travel lanes (one in each direction) between I-5 and Bellevue Way. Between Rainier Avenue and Bellevue Way, these new lanes would

be for HOV traffic only. New direct access ramps would be built on Mercer Island: for eastbound outer roadway HOV traffic at 77th Avenue SE, and for westbound outer roadway traffic at 80th Avenue SE. The alternative would modify the existing direct access ramp at Bellevue Way to allow an HOV-only entrance ramp connection to the westbound outer roadway HOV lane. The existing HOV ramp connecting I-90 to I-405 would be modified to provide access to this ramp from the eastbound outer roadway HOV lane. Shoulder width reductions would require closure of adjacent travel lanes for some routine maintenance. Flammable cargo may be restricted from the tunnels, depending on results of WSDOT studies.

Traffic on the westbound outer roadway would be closer to the shared-use pathway. This would be mitigated in part by additional screening on top of the barrier between the pathway and the roadway.

The project would include crash reduction measures, including:

- Speed management
- Shoulder rumble strips
- Enhanced delineation and signing
- Enhanced illumination
- Enhanced incident management program

The Sound Transit Board of Directors and the Washington State Transportation Commission selected Alternative R8-A as the Locally Preferred Alternative. FHWA selected Alternative R-8A as the environmentally preferable alternative that best provides reliable and safe two-way transit and HOV transportation on I-90 between Bellevue and Seattle while minimizing impacts to other users and transportation modes (2004).

Based on its own independent analysis, FTA has now determined, in consultation with Sound Transit and WSDOT, that Alternative R8-A meets the purpose and need as analyzed in the EIS and evaluated in the environmental review documents, that is, that it will improve regional mobility by providing reliable and safe two-way transit and HOV operations on I-90 between Bellevue and Seattle, while minimizing impacts to the environment and to other users and transportation modes.

Development and Refinement of Alternatives

In order to provide meaningful descriptions and necessary context for this decision, this ROD describes not only the Seattle-to-Mercer Island portion of the project that FTA is funding, but the overall project alternatives as they were analyzed in 2004 in the EIS.

The process of selecting and evaluating project alternatives began in 1998 and involved extensive analysis, refinement, and screening of potential alternatives. The primary means of selecting and evaluating the alternatives was through two screening processes and the scoping process. The purpose of the first screening process in 1998 was to identify reasonable alternatives that would likely meet the project purpose and need. Eleven alternatives were evaluated against the following criteria: consistency with local plans and policies; geometric feasibility; environmental compatibility; social, economic, and land use impacts; transportation impacts; public opinion; financial feasibility; compatibility with other components. These criteria eliminated five of the alternatives.

The second level of screening occurred in 1999 and 2000 and included public scoping for an environmental assessment and development of conceptual roadway design plans, traffic operations analysis, and environmental analysis for the remaining alternatives. This screening eliminated two operational alternatives due to congestion. WSDOT convened an internal focus team to investigate widening and enhancements to the existing alternatives and to identify any other alternatives that might be considered if the previously assumed construction budget and constraints were relaxed. This team developed one new alternative (R-8A) and modified two others.

The FEIS examined the following alternatives:

- Alternative R-1 (No-Build)
- Alternative R-2B Modified (Two-Way Center HOV Lanes)
- Alternative R-5 Restripe (Transit-only Shoulders on Outer Roadway)
- Alternative R-5 Modified (Transit-only Shoulders on Outer Roadway)
- Alternative R-8A (HOV Lanes on Outer Roadway)

These alternatives are summarized below and described in detail in Chapter 2 of the Final EIS.

Alternatives other than the Locally Preferred Alternative

Alternative R-1 (No-Build): If the project did not proceed, the existing I-90 roadway would remain the same with a reversible two-lane center roadway providing HOV and transit lanes in the peak direction only (westbound AM, eastbound PM). The I-90 Two-Way Transit and HOV Operations project's environmental impacts would not occur. WSOT would perform short-term minor construction necessary for continued operation of the roadway. Minor safety improvements could be made. Operational revisions to the center roadway would be required within a decade in order to maintain a minimum 40 mph travel speed for transit and HOV traffic in the center roadway. For instance, the HOV eligibility requirement might increase from two to three persons/vehicle, or SOVs traveling to Mercer Island might be displaced to the outer roadways. This alternative fails to meet the purpose and need (by failing to provide two-way transit and HOV operations or reliable transit operations); does not improve regional mobility; does not minimize impacts to other users and transportation modes; and conflicts with regional transportation plans.

Alternative R-2B Modified (Two-Way Center HOV Lanes): Alternative R-2B would convert the center roadway to two-way operation for transit and HOV only by adding a concrete barrier, providing one travel lane in each direction. Three-plus HOV would be required by 2025. This alternative would include two new HOV access ramps on Mercer Island, and the Bellevue Way HOV direct access ramp would be converted to two-way operation. This alternative fails to meet the purpose and need (by not adding additional two-way transit and HOV lanes, thereby failing to improve transit/HOV operations and failing to provide reliable transit operations); does not improve regional mobility; and does not minimize impacts to other users and transportation modes.

Alternative R-5 Restripe (Transit-Only Shoulders on Outer Roadway): Alternative R-5 Restripe would retain reversible operations in the center roadway with both lanes operating in the same direction. It would narrow lane widths and inside shoulder widths on the outer roadways and create transit-only shoulder lanes on the outside shoulders. Transit-only lanes would operate peak direction only. Buses would operate on the transit shoulder adjacent to the shared-use pathway during the PM peak period, requiring a higher railing separating the pathway. This alternative fails to meet the purpose and need (by not adding additional two-way transit and HOV lanes, relying instead on

peak-period transit use of shoulders, and thereby failing to improve transit/HOV operations and failing to provide reliable transit operations); does not improve regional mobility; and does not minimize impacts to other users and transportation modes; and conflicts with regional transportation plans.

Alternative R-5 Modified (Transit-Only Shoulders on Outer Roadway): Alternative R-5 Modified would retain reversible operations in the center roadway by widening portions of the I-90 outer roadways to allow for a wider inside shoulder for westbound buses. It would include one new transit-only direct access ramp on Mercer Island and convert the existing direct access ramp at Bellevue Way to two-way operations. Traffic would operate closer to the shared-use pathway, which would be partially mitigated by additional screening on top of the barrier. Some maintenance operations would require closure of travel lanes because the westbound outbound shoulder would be reduced in width in several places (e.g., inside the Mount Baker Tunnel). This alternative fails to meet the purpose and need (by not adding additional two-way transit and HOV lanes, relying instead on transit-only shoulders, and thereby failing to improve transit/HOV operations and failing to provide reliable transit operations); does not improve regional mobility; and does not minimize impacts to other users and transportation modes; and conflicts with regional transportation plans.

Chapter 2 of the EIS describes the alternatives screening processes. Chapter 5 of the EIS includes a detailed comparison of the alternatives.

PUBLIC OPPORTUNITY TO COMMENT

Public participation in the development and implementation of *Sound Move* and *Sound Move 2* started with the Forward Thrust Plan in the 1960s and continued into the new millennium. This public participation included an advisory panel of civic leaders to provide overall guidance; continuous review and input from subregional groups of elected officials; subarea forums; many community meetings; and roundtable sessions to gather local input and help develop the plan.

EIS Scoping Process

The public scoping process for this project began in the fall of 2001. FHWA's Notice of Intent (NOI) to prepare the I-90 Two-Way Transit and HOV Project EIS was published in the Federal Register on November 9, 2001. An agency scoping meeting occurred on December 4, 2001, and three public scoping meetings were held in December 2001, one each in Bellevue, Mercer Island, and Seattle. Approximately 400 letters were received during the scoping process. Meetings were publicized using various media. All addresses on Mercer Island received newsletters listing the scoping meetings, along with almost 2000 addresses on Sound Transit's I-90 project list, the Sound Transit 98144 zip code list of 400 addresses of people interested in any project, and 50 more addresses from Sound Transit's Central Link mailing list. Sound Transit announced meetings on its website, posted signs on the bicycle/pedestrian pathway on I-90, ran advertisements in the *Seattle Times* and *Post-Intelligencer*, *Eastside Journal*, *Mercer Island Reporter*, *El Mundo*, *Northwest Asian Weekly/Seattle Chinese Post*, *The Facts*, and *The Seattle Medium*. A Scoping Summary Report, made available for public review, described public comments. Sound Transit and WSDOT provided numerous briefings with various organizations and committees throughout the environmental process.

FHWA, Sound Transit and WSDOT released the Draft EIS on April 25, 2003 and circulated it to affected local jurisdictions; regional, state, and federal agencies; community organizations; environmental and other interest groups; and interested individuals. The comment period ended

June 9, 2003. Sound Transit held three public hearings in May 2003 to receive formal public comment on the Draft EIS. More than 500 comment letters and public testimonies on the Draft EIS were received from agencies, organizations, and individuals. The EIS (Volume II) includes these comments and responses to them, and also describes other outreach efforts during the EIS process. The Federal Register Notice of Availability of the Final EIS ran on May 21, 2004. Sound Transit received six comments on the Final EIS, responses to which were included in the 2004 ROD.

On December 10, 2010, the Federal Register ran a notice of FTA's adoption of the FHWA EIS.

MITIGATION MEASURES TO MINIMIZE HARM

Attachment C, which is incorporated herein by reference, establishes mitigation measures with which Sound Transit and WSDOT must comply under this ROD. **The mitigation measures in Attachment C are material conditions of this I-90 Two-Way Transit and HOV Operations Project ROD. FTA will incorporate them in any grant agreement that it may award Sound Transit for the construction of the project.**

The Federal Transit Administration finds that with the accomplishment of these mitigation commitments, Sound Transit will have taken all reasonable, prudent and feasible means to avoid or minimize impacts from the preferred alternative.

Mitigation Monitoring Program to Ensure Compliance

To ensure compliance with required mitigation and to assist with FTA oversight, Sound Transit and WSDOT shall establish a mitigation-monitoring program, to be approved by FTA, which will track, monitor and report the status of the environmental mitigation actions identified in this ROD. The mitigation-monitoring program may, upon approval of FTA, be revised as necessary during the permitting process in order to facilitate implementation of those measures during final design and construction. Under this program, Sound Transit and WSDOT will conduct regular reviews for compliance with environmental mitigation commitments with corrective actions as may be required.

Sound Transit shall submit to FTA each quarter an "I-90 Two-Way Transit and HOV Operations Project Record of Decision Environmental Mitigation Program Status Report" describing the status of the mitigation-monitoring program. Sound Transit will be responsible for implementation of identified mitigation measures during final design and construction.

DETERMINATIONS AND FINDINGS

FTA has prepared this ROD in compliance with NEPA and its implementing regulations (40 CFR 1500-1508), FTA's NEPA regulations (23 CFR 771), and the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

Environmental Findings

National Environmental Policy Act, Environmental Quality Improvement Act and Executive Order 11514, Protection and Enhancement of Environmental Quality

Title 42, sections 4321 through 4347 and 4371 through 4375 of the United States Code, and Executive Order 11514 on the Protection and Enhancement of Environmental Quality, require federal agencies to evaluate the environmental impacts of their actions and integrate such evaluations into their decision-making processes, and require that each federal department and agency affecting the environment implement appropriate policies. The environmental record for the

I-90 Two-Way Transit and HOV Operations Project includes the previously referenced *I-90 Two-Way Transit and HOV Operations Project Environmental Impact Statement*, the 2004 FHWA Record of Decision, and other NEPA documents cited herein and included as the Environmental Review Documents. These documents, all incorporated herein by reference, represent the detailed statements required by NEPA and by 49 United States Code Section 5324(b) on:

- The environmental impacts of the proposed project;
- the adverse environmental effects that cannot be avoided should the proposed project be implemented;
- alternatives to the proposed project; and
- the irreversible and irretrievable impacts on the environment which may be involved in the project should it be implemented.

Having carefully considered the environmental record noted above and the findings below, the mitigation measures as specified below, the written and oral comments offered by other agencies and the public on this record, and pursuant to 49 U.S.C. Section 5324(b) for consideration of economic, social and environmental interests, FTA has determined that:

- The project's environmental review application includes a record of the environmental impact of the proposal, of the adverse environmental effects that cannot be avoided, of alternatives to the proposal, and of irreversible and irretrievable impacts on the environment;
- FTA has cooperated with the Secretary of the Interior and the Administrator of the Environmental Protection Agency on the project;
- a public hearing on the project has been held and FTA has reviewed each transcript of a public hearing submitted under 49 U.S.C. Section 5323(b) to establish that an adequate opportunity was afforded for the presentation of views by all parties with a significant economic, social, or environmental interest in the Project; and having reviewed the record of those views, FTA makes the following findings:
 - a) Consideration has been given to the preservation and enhancement of the environment and to the interests of the community in which the project is located;
 - b) all reasonable steps have been taken to minimize adverse environmental effects of the project;
 - c) where adverse environmental effects remain, there exists no feasible and prudent alternative to avoid the effects, and all reasonable steps have been taken to minimize and mitigate the effects; and
 - d) the project meets its purpose and need, and the requirements of NEPA have been met.

Executive Order 12372 on Intergovernmental Review of Federal Programs

This order directs federal agencies to consult with and solicit comments from state and local governments whose jurisdictions would be affected by a federal action.

During the course of the environmental review, the project team directly involved state and local agencies in the project. Agency staff, executives and elected/appointed officials were coordinated with during each project phase. These efforts are documented in Chapter 8 of the FEIS and Appendix K of the Final EIS. Accordingly, FTA concludes that the Project has complied with Executive Order 12372.

Executive Order 13175 on Consultation and Coordination with Indian Tribe Governments

FTA invited the following Native American tribes to consult and coordinate on the project: the Duwamish, Kikiallus, Muckleshoot, Puyallup, Snoqualmie, Suquamish, Tulalip and Yakama.

FTA finds that the Project has complied with Executive Order 13175.

Endangered Species Act (ESA) Consultation with Resource Agencies

The Endangered Species Act of 1973 provides a means to conserve the ecosystems on which threatened and endangered species depend, and a program to conserve such species. The ESA requires federal agencies to ensure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of any listed species or result in direct mortality or destruction or adverse modification of critical habitat of listed species. This requirement is fulfilled by consultation and review of the proposed actions and mitigation with the appropriate agency responsible for the conservation of the affected species.

Accordingly, FHWA consulted with the National Oceanic and Atmospheric Administration - National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS). WSDOT submitted a Biological Assessment (BA) on behalf of FHWA to NOAA Fisheries. NOAA Fisheries concurred with the proposed determination of "may affect, not likely to adversely affect" Puget Sound Chinook salmon in January 2004. USFWS concurred with the proposed determination of "may affect, not likely to adversely affect" Coastal/Puget Sound bull trout in February 2004.

During the preparation of the both of the BAs, regular informal consultations occurred between NOAA Fisheries, USFWS, FHWA, WSDOT, Sound Transit, and biologists working on the BAs, including briefing sessions, telephone updates, and periodic review drafts.

In July 2007, FHWA (through WSDOT) reinitiated Section 7 ESA consultation for Puget Sound steelhead in response to NOAA Fisheries' designation of that species as a threatened in June 2007. NOAA Fisheries concurred with the proposed determination of "may affect, not likely to adversely affect" Puget Sound steelhead in July 2007. In August 2010, in accordance with Section 7(a)(2) of the Endangered Species Act (ESA), FHWA and WSDOT determined that the project would not destroy or adversely modify the designated critical habitat of Puget Sound Chinook or Coastal/Puget Sound bull trout.

The project is not likely to adversely affect any species listed as endangered or threatened, or any habitat designated as critical. The US Fish and Wildlife Service and National Marine Fisheries Service have concurred in this assessment. Accordingly, FTA finds that the project has complied with ESA.

Magnuson-Stevens Act

The Magnuson-Stevens Act (MSA) directs Federal agencies to consult with NOAA Fisheries on all actions or proposed actions that may adversely affect Essential Fish Habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitats, and other ecosystem components, if such modifications reduce the quality or quantity of EFH.

The proposed project area includes habitat that has been designated as EFH for various life stages of Chinook and coho salmon. NOAA Fisheries determined that the habitat requirements for the MSA-

managed species in the project area are similar to that of the ESA-listed species. The conservation measures developed to address ESA concerns, which are incorporated into this ROD's mitigation measures, are adequate to avoid, minimize, or otherwise offset potential adverse effects to designated EFH. Separate or additional conservation recommendations pursuant to MSA are not necessary. Accordingly, FTA finds that the project has complied with the MSA.

Fish and Wildlife Coordination Act

The Fish and Wildlife Consultation Act (FWCA) requires consultation with the U. S. Fish and Wildlife Service (USFWS), with a view to the conservation of wildlife resources, whenever the waters of channel of a body of water are modified by a department or agency of the U.S.

The project team consulted with USFWS from scoping onward, and provided opportunities for USFWS review and comment on environmental analyses and documents. Accordingly, FTA finds that the project has complied with the FWCA.

Migratory Bird Treaty Act, Executive Order 13186 on Migratory Birds, and the Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) generally prohibits the taking, killing, or possessing of native migratory birds. Executive Order 13186 directs federal agencies to support the conservation intent of the migratory bird treaties and the MBTA by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions. Separately, the Bald and Golden Eagle Protection Act prohibits the taking or possessing of Bald or Golden Eagles.

There are eagles and migratory birds in the project area. However, the EIS demonstrates that the project should not affect such birds in ways that are proscribed by law. Accordingly, FTA finds that the project has complied with the Migratory Bird Treaty Act, Executive Order 13186 on Migratory Birds, and the Bald and Golden Eagle Act.

National Historic Preservation Act (Section 106), Executive Order 11593 on Protection and Enhancement of the Cultural Environment, and Executive Order 13007 on Protection and Accommodation of Access to Indian Sacred Sites

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended², requires that federal agencies identify and assess the effects of federally assisted undertakings on historic resources, archaeological sites, and traditional cultural properties, and requires agencies to consult with interested parties to find acceptable ways to avoid or mitigate adverse effects.

To comply with Section 106 regulations, WSDOT, on behalf of FHWA, consulted with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) to determine the project's adverse effects. It also sought consultation with interested parties, including the Suquamish, Muckleshoot, Tulalip, Snohomish, Yakama, and Duwamish Tribes; Kikiallus Indian Nation, and the cities of Seattle and Mercer Island. Consultation and investigation revealed no archaeological sites or culturally significant sites in the area of potential effect.

² Related laws also addressed in this section include the Archaeological and Historic Preservation Act of 1974, the Native American Graves Protection and Repatriation Act, and the Antiquities Act of 1906.

Similarly, the EIS concluded that the project would not affect any resources eligible for listing on the National Register of Historic Properties. The SHPO concurred with this determination in 2003. After FHWA published the EIS and issued of the 2004 ROD, the Lake Washington Highway segment of I-90 (between milepost 3.44 and 8.9) was determined eligible for listing in the National Register. In 2010, the SHPO concurred that the project would have no adverse effect on the resource. If any archaeological sites are discovered that may be eligible for listing on the NRHP, then consultation with SHPO and interested tribes regarding inadvertent discovery, documentation, evaluation, assessment, and mitigation measures, if necessary, will be necessary.

Accordingly, FTA finds that the Project has complied with NHPA and the related laws, regulations, and executive orders.

Department of Transportation Act, Section 4(f)

Section 4(f) of the Department of Transportation (DOT) Act of 1966 requires that use of land from a significant publicly owned park, recreation area, wildlife and waterfowl refuge, or historic site, be approved and constructed only if: 1) There is no feasible and prudent alternative to the use of the land; and 2) The project includes all possible planning to minimize harm to the site. A Section 4(f) evaluation must be prepared that describes the affected resources, discusses the direct impacts and the proximity impacts that would substantially impair the use of these resources, and identifies and evaluates alternatives that avoid any such impacts and measures to minimize or mitigate for unavoidable adverse effects.

The EIS included a Section 4(f) evaluation prepared after consultations with the State Historic Preservation Officer and the Cities of Mercer Island and Seattle. FHWA concurred with the proposed determination that the I-90 shared use path on Homer Hadley Floating Bridge is not a Section 4(f) resource; further, FHWA concurred that the project would not substantially impair the activities, features, or attributes of any of the other potential Section 4(f) resources in the project area. These evaluations were provided to the United States Department of the Interior (DOI).

Based on the Section 4(f) evaluation, the Section 106 consultations, and the lack of objections from DOI, FTA finds that the project will not use or substantially impair any park or recreational resource, any historic site, or any wildlife and waterfowl refuge protected by Section 4(f).

Executive Order 12898 on Environmental Justice

Executive Order 12898 provides that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.” The Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-Income Populations (No. 5680.1) requires agencies to (1) explicitly consider human health and environmental effects related to transit projects that may have a disproportionately high and adverse effect on minority and low-income populations; and (2) implement procedures to provide “meaningful opportunities for public involvement” by members of these populations during project planning and development.

As part of this project, from the public planning process through completion of the EIS, Sound Transit, WSDOT, and FHWA implemented meaningful outreach efforts to minority and low-income communities to assure their active participation. The Environmental Justice Analysis included in Appendix A of the EIS describes these outreach efforts. In addition, Appendix A concludes the project would not cause disproportionately high and adverse impact to low income

and minority populations. The project would provide benefits to the surrounding area and the I-90 corridor, including its minority and low-income residents, due to improved transit reliability and travel times.

Accordingly, FTA finds that the project would not have disproportionately high and adverse effects on the minority or low-income populations of the I-90 project area, particularly in light of the offsetting benefits to low-income populations, and therefore has complied with Executive Order 12898 on Environmental Justice.

Clean Air Act

The Clean Air Act (CAA) (42 U.S.C. 7506(c)) requires that transportation projects conform to the purposes of the State Implementation Plan (SIP) or Maintenance Plan (SIP/MP). "Conformity" means that the transportation project will not produce new violations of the US Environmental Protection Agency's National Ambient Air Quality Standards (NAAQS), worsen existing violations, or delay timely attainment of the NAAQS.

The EPA conformity regulation (40 CFR, part 93) establishes criteria that a transportation project must meet in order to be found by FTA to conform to the SIP/MP. The conformity criteria are (1) the project must be included in a conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), and (2) the project must not cause or contribute to any localized NAAQS exceedances, known as "hot spots." The project is included in the region's Metropolitan Transportation Plans, *Destination 2030* (2001) and *Transportation 2040* (2010)³, and in the Regional TIP, both of which have been found by FTA, FHWA, and the Puget Sound Regional Council (PSRC) to conform, in accordance with the aforementioned EPA regulation.

Further, for carbon monoxide (CO), analyses at specific intersections described in Section 4.4 of the EIS show that the project would not create any new regional violations of the NAAQS for CO and would not worsen an existing violation. FTA therefore finds that the project conforms to the SIP/MP in accordance with the EPA regulations governing such determinations.

Finally, the Final EIS identifies several best management practices to reduce construction-related emissions, which are incorporated into this ROD as mitigation measures.

Accordingly, FTA finds that the project has complied with the Clean Air Act.

Water Quality: Clean Water Act (Sections 401 and 402)

Discharges of water are addressed in the Clean Water Act (CWA) in Section 401 and Section 402. Under Section 402, a discharge of domestic or industrial wastewater into marine or fresh surface water requires a National Pollutant Discharge Elimination System (NPDES) permit (including a General Construction Permit for applicable construction activities).

The project will not discharge any runoff from new point sources into a surface water body. As described in the EIS and the mitigation measures that are part of this ROD, runoff from impervious surfaces will be treated according to the most recently updated WSDOT *Highway Runoff Manual*. The runoff will discharge into new stormwater treatment facilities for water quality treatment prior to discharge at existing outfall locations. The new facilities will provide treatment for 140 percent of the new impervious area. Road maintenance practices will also comply with the WSDOT

³ The MPO updated the transportation plan following the release of the 2004 ROD.

Highway Runoff Manual to dispose of highway-generated waste such as street sweepings and catch basin cleanings, and to handle snow and ice control operations.

The project's mitigation measures include a number of actions to prevent construction impacts to water quality. Sound Transit and WSDOT shall comply with the requirements of EPA's General Construction Permit and the most recently updated WSDOT *Highway Runoff Manual* provisions on erosion and sediment, spill prevention and control, and other construction impacts.

Accordingly, FTA finds that the Project has complied with Sections 401 and 402 of the CWA.

Wetlands: Clean Water Act, Executive Order 11990 on the Protection of Wetlands

The Clean Water Act (Section 404) and Executive Order 11990 on the Protection of Wetlands apply to federally permitted projects that affect wetlands and other waters of the United States. Section 404 of the Clean Water Act, administered by the US Army Corps of Engineers and EPA, regulates placement of dredge or fill material into the waters of the U.S., including wetlands.

The project activities that would potentially disturb wetlands have been completed as of this ROD.

Accordingly, FTA finds that the Project has complied with the Clean Water Act (Section 404) and Executive Order 11990 on Protection of Wetlands.

Executive Order on Floodplain Management

Executive Order 11988 on Floodplain Management describes measures to prevent a reduction in the capacity of floodplains to absorb runoff. The project does not encroach into any designated floodplains. FTA finds that the project complies with floodplain protection requirements.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) requires certification for all federally licensed development including Army Corps of Engineers, Section 10 and Section 404 permits, and U.S. Coast Guard Bridge permits. In Washington State, the project proponents prepare the Coast Zone Certification and submit it to the Washington State Department of Ecology (Ecology). Ecology reviews the information based on state environmental and shoreline requirements. Before Ecology issues CZM certification, it requires approved water quality certification (which is done by Ecology) and shoreline permits from the local jurisdictions. Consistency with CZM must be demonstrated no later than ninety days before the start of the proposed project construction in the coastal zone. Sound Transit and WSDOT have complied with CZM requirements.

Noise Control Act of 1972, Quiet Communities Act

Several federal regulations require protection from noise impacts. These regulations include the Noise Control Act of 1972 and the Quiet Communities Act, which require federal agencies to develop programs to promote an environment free of noise that jeopardizes public health or welfare and that agencies comply with state and local noise ordinances. FTA consequently developed criteria, most recently documented in Transit Noise and Vibration Impact Assessment Manual (May 2006), for measuring, assessing, and mitigating noise impacts from transit and transit/highway projects. Applying the FTA criteria to the noise impacts documented in the EIS, FTA finds that there are no operational noise impacts subject to mitigation requirements, but finds that there may

be some short-term construction-related noise impacts. This ROD includes mitigation measures to minimize those impacts. Accordingly, FTA finds that the project has complied with these acts.

Land and Water Conservation Fund Act of 1965, Section 6(f)

Section 6(f) of the Land and Water Conservation Fund Act prohibits the conversion of property acquired or developed with LWCA Fund grants to a non-recreational purpose without the approval of the Department of Interior's National Park Service (NPS). There are no lands purchased with assistance from this Fund. Accordingly, FTA finds that Section 6(f) does not apply to the project.

Marine Mammal Protection Act

The Marine Mammal Protection Act's purpose to keep is species and population stocks of marine mammals from diminishing beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part, and prevent them from diminishing below their optimum sustainable populations. A portion of the project involved pile driving, which may have affected marine mammals, but that portion has been completed. Accordingly, FTA finds that the Marine Mammal Protection Act does not apply to the project.

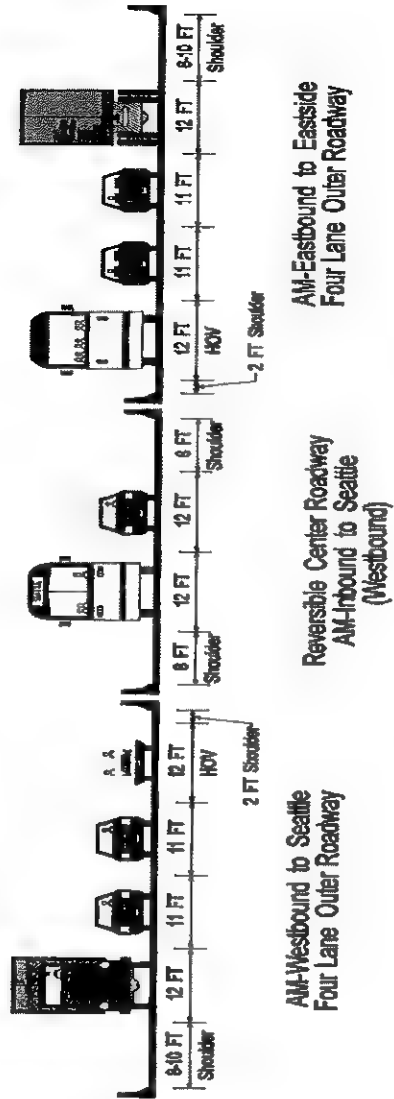
Based on the foregoing findings, this I-90 Two-Way Transit and HOV Operations Project Record of Decision is hereby approved.

for Lenida M. Lehtke
R.F. Krochalis, Regional Administrator
Region X
Federal Transit Administration

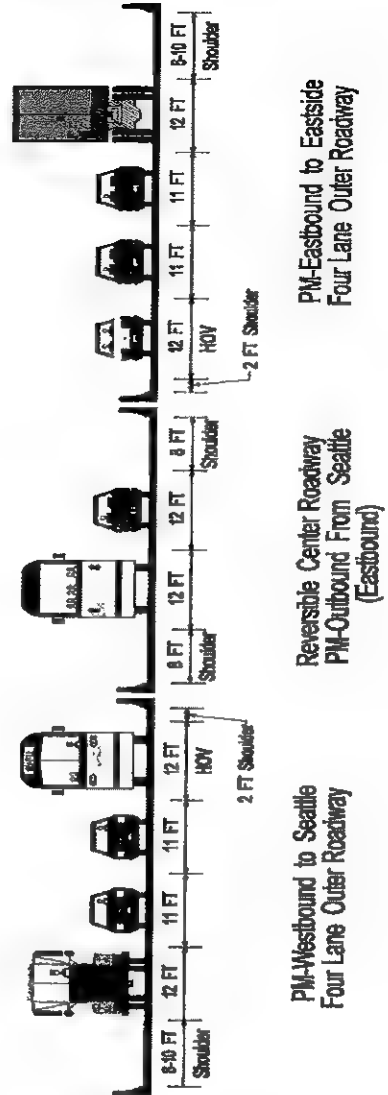
15 April 2011
Date

ATTACHMENT A
***Typical Cross Section
of Locally Preferred Alternative***

MORNING PEAK PERIOD



AFTERNOON PEAK PERIOD



Attachment A: Preferred Alternative R-8A

ATTACHMENT B

Alternatives Considered

ALTERNATIVES CONSIDERED

Sound Transit and WSDOT began to identify alternatives in 1998. The table below shows the initial list of alternatives. Descriptions follow the table.

**Table 2-1
Summary of Initial List of Alternatives**

Roadway Alternative	Outer Roadway (number of lanes)			Center Roadway (number of lanes)		
	General Purpose	HOV/ Transit	Transit Only	HOV/Transit MI SOV	HOV/ Transit	Transit Only
R-1 (existing)	3 WB 3 EB	0	0	2 Reversible	0	0
R-2A	3 WB 3 EB	0	0	0	0	1 WB 1 EB
R-2B	3 WB 3 EB	0	0	0	1 WB 1 EB	0
R-2C	3 WB 3 EB	0	0	1 WB 1 EB		
R-3	2 WB 2 EB	1 WB 1 EB	0	0	0	1 WB 1 EB
R-4	3 WB 3 EB	1 WB 1 EB	0	0	0	1 WB 1 EB
R-5A	3 WB 3 EB	0	Reverse-peak Outer Shoulder Use	2 Reversible	0	0
R-5B	3 WB 3 EB	0	Reverse-peak Inner Shoulder Use	2 Reversible	0	0
R-6	3 WB 3 EB	0	0	1 WB 1 EB	0	1 Reversible
R-7A	3 WB 3 EB	1 WB 1 EB Open in reverse-peak direction during peak hours only	0	1 WB 1 EB	0	1 Reversible
R-7B	3 WB 3 EB	1 WB 1 EB Full-time	0	1 WB 1 EB	0	1 Reversible

Notes:
WB = westbound
EB = eastbound

Alternatives evaluated in the EIS

Alternative R-1 (No Build)

With the No Build Alternative R-1, the existing I-90 roadway would remain the same with a reversible two-lane center roadway providing HOV and transit lanes in the peak direction only, westbound in the AM and eastbound in the PM. No environmental impacts related to the I-90 Two-Way Transit and HOV Operations Project would occur, and costs associated with the project would not be spent.

Alternative R-2B Modified (Two-Way Center HOV Lanes)

Alternative R-2B would convert the I-90 center roadway to two-way operation by adding a concrete barrier, providing one travel lane in each direction. The center roadway would be restricted to transit and carpools, and HOV eligibility requirements would likely be changed from 2+ to 3+ by 2025. Two additional HOV direct access ramps would be built on Mercer Island at 77th and 80th Avenues, and the Bellevue Way HOV direct access ramp would be converted to two-way operation.

Alternative R-5 Restripe (Transit-only Shoulders on Outer Roadway)

With Alternative R-5 Restripe, reversible operation would be retained in the center roadway, with both lanes operating in the same direction. On the outer roadways, lane and inside shoulder widths would be narrowed, and transit-only shoulder lanes would be created on the outside shoulders. Transit-only lanes would operate eastbound during the morning peak period and westbound during the afternoon peak period.

Alternative R-5 Modified (Transit-only Shoulders on Outer Roadway)

Alternative R-5 Modified would retain reversible operation in the center roadway. Portions of the I-90 outer roadways would be widened to allow for a wider inside shoulder for westbound buses. One new transit-only direct access ramp would be constructed at 80th Avenue SE on Mercer Island, and the existing HOV direct access ramp at Bellevue Way would be converted to two-way operation.

Preferred Alternative R-8A (HOV on Outer Roadway)

Alternative R-8A will provide HOV lanes on the outer roadways. It will retain the existing reversible operations on the center roadway, with both lanes operating in the same direction, westbound in the AM and eastbound in the PM. SOVs will only be allowed to use the center roadway between Rainier Avenue in Seattle and Island Crest Way on Mercer Island. The center and outer roadway HOV lanes will likely operate with a 2 + occupants per vehicle restriction. The outer roadways will be modified by restriping and, where feasible, widening the outer roadways within existing right-of-way to provide one additional travel lane in both directions on I-90 between I-5 and Bellevue Way. Between Rainier Avenue and Bellevue Way, this lane will be for the exclusive use of HOV traffic. New HOV direct access exit ramps will be constructed for eastbound outer roadway HOV traffic beginning at the existing divergence for 77th Avenue SE and connecting to Island Crest Way and for westbound outer roadway HOV traffic at 80th Avenue SE on Mercer Island. The existing HOV ramp connecting the I-90 center roadway to Bellevue Way will be modified to provide an HOV-only entrance ramp

connection to the westbound outer roadway HOV lane. The existing HOV ramp connecting the I-90 center roadway to I-405 will be modified to provide access to this ramp from the eastbound outer roadway HOV lane.

Alternatives Eliminated in Screening

Alternative R-2A (Two-way Center Roadway)

The center roadway would be converted to two-way operation for transit only. The outer roadways would remain in the existing physical and operational configuration.

Alternative R-2C (Two-way Center Roadway)

The center roadway would be converted to two-way operation open to transit, HOV and Mercer Island general purpose traffic. The outer roadways would remain in the existing physical and operational configuration.

Alternative R-3 (Two-Way Center Roadway with Outer HOV Lane Conversion)

The center roadway would be converted to two-way, transit-only operation. Non-transit HOV traffic displaced from the center roadway would be provided with HOV lanes on the outer roadways, created by conversion of one existing general-purpose lane in each direction to an HOV lane. Two general purpose lanes would remain in operation in each direction on the outer roadways between the East Channel Bridge and the Rainier Avenue S interchange. Mercer Island traffic would be restricted to the two remaining general-purpose lanes between Island Crest Way and Rainier Avenue S.

Alternative R-4 (Two-Way Center Roadway, Add Outer HOV Lanes)

The center roadway would be converted to two-way, transit-only operation. HOV traffic displaced from the center roadway would be provided with HOV lanes on the outer roadways, created by restriping the outer roadways to reduce shoulder, and possibly lane widths, to create a fourth, HOV-only lane in each direction between the East Channel Bridge and the Rainier Avenue S interchange. Mercer Island traffic would be required to use the three general-purpose lanes in each direction between the Island Crest Way and Rainier Avenue S. interchanges.

Alternative R-6 (Three Lane Center Roadway)

The center roadway would be converted to two-way operation, with a third reversible lane created within the existing center roadway envelope by reducing shoulder and possibly lane widths. Opposing traffic would be separated by a moveable barrier, creating two westbound lanes during the AM peak period and two eastbound lanes during the PM peak period. Depending on traffic volumes and the carpool definition, the two peak-direction lanes on the center roadway could be operated as transit-only, transit plus carpools/vanpools, or open to Mercer Island general purpose traffic between Island Crest Way and Rainier Avenue S. The single reverse-peak direction lane in the center roadway would most likely be transit only. No changes would occur on the outer roadway.

Alternative R-7A (Three-Lane Center Roadway with Peak Period Four-Lane Outer Roadway)

The center roadway would be converted to two-way operation with a third reversible lane created within the existing center roadway envelope by reducing shoulder and possibly lane widths. Opposing traffic would be separated by a moveable barrier, creating two westbound lanes during the AM peak period and two eastbound lanes during the PM peak period. Depending on traffic volumes and the carpool definition, the two peak-direction lanes on the center roadway could be operated as transit-only, transit plus carpools/vanpools, or open to Mercer Island general purpose traffic between Island Crest Way and Rainier Avenue S. The single reverse-peak direction lane in the center roadway would most likely be transit only. The outer roadways would be restriped, reducing shoulder and possibly lane widths, to create a fourth lane in each direction. This fourth lane would only be open during peak periods, in the reverse-peak direction, to HOV traffic. Lane control signals would be used to control use of the lanes in the outer roadways. Outside of the peak periods, the fourth lane in each direction would be available for use as a "breakdown" shoulder.

Alternative R-7B (Three-Lane Center Roadway with Fulltime Four-Lane Outer Roadway)

The center roadway would be converted to two-way operation with a third reversible lane created within the existing center roadway. Opposing traffic would be separated by a moveable barrier, creating two westbound lanes during the AM peak period and two eastbound lanes during the PM peak period. Depending on traffic volumes and the carpool definition, the two peak-direction lanes on the center roadway could be operated as transit-only, transit plus carpools/vanpools. The single reverse-peak direction lane in the center roadway would most likely be transit only. The outer roadways would be restriped, reducing shoulder and possibly lane widths, to create a fourth lane in each direction. This fourth lane would be open to general purpose traffic in the peak direction, providing capacity for Mercer Island traffic, and would be restricted to HOV traffic in the reverse-peak direction.

ATTACHMENT C

Summary of Required Mitigation Measures

1. Introduction

The mitigation measures identified for the I-90 Two-Way Transit and HOV Operations Project in the Project's EIS must be implemented by Sound Transit and WSDOT if the project proceeds with FTA financial assistance. Those measures are incorporated herein by reference and are now commitments incorporated into the definition of the project. Sound Transit and WSDOT shall implement them, provide funding for their implementation, or ensure that other agencies fund and implement them.

To ensure compliance with required mitigation and to assist with FTA oversight, Sound Transit shall establish a mitigation-monitoring program, to be approved by FTA, which will track, monitor and report the status of the environmental mitigation actions identified in this ROD. The mitigation-monitoring program may, upon approval of FTA, be revised as necessary during the permitting process in order to facilitate implementation of those measures during final design and construction. Under this program, Sound Transit will conduct regular reviews for compliance with environmental mitigation commitments with corrective actions as may be required. Sound Transit will consult with WSDOT as necessary to carry out the mitigation responsibilities.

Each quarter, Sound Transit will submit to FTA an I-90 Two-Way Transit and HOV Operations Project Environmental Mitigation Program Status Report describing the status of the mitigation-monitoring program. Implementation of identified mitigation measures during final design and construction will be Sound Transit's responsibility.

Sound Transit shall not withdraw or substantially change any of the mitigation commitments identified in this ROD without FTA's written approval. In addition, any change to the project that may involve new or changed environmental or community impacts not yet considered in the existing environmental record must be reviewed in accordance with FTA environmental rules and approved by FTA.

This appendix summarizes the mitigation measures and other project features that reduce adverse impacts. It first describes the mitigation measures associated with project operations, and then describes the measures associated with construction. As noted below, final roadway design will help determine alternative measures for speed management, delineation and signing, and enhanced illumination at enforcement/refuge areas. The most effective and feasible solution will be selected for the alternative measures. The selection criteria will include, but not be limited to, safety benefits, operational effectiveness and cost.

NOTE: For administrative convenience, this ROD includes measures that FHWA adopted in the 2004 ROD. This FTA ROD does not alter those commitments. In addition, because FTA's participation in the project comes after much of the project has been built, Sound Transit and WSDOT have already satisfied some of these conditions.

2. Operational/long-term mitigation

Freeway Operations

The following project elements are designed to minimize the impacts associated with operation of Alternative R-8A.

Speed Management

Variable speed limits will be implemented on I-90 between Seattle and Bellevue, pending further study of the specifics of implementation of variable speed limits in the I-90 corridor. These studies will include development and evaluation of system options and functions to be addressed by the system (e.g. changing speed limits in response to congestion, incidents, weather, etc.) and will consider operational, enforcement, institutional, and legal issues. If variable speed limits are not implemented, other speed management measures, such as reduced speed limits and/or speed advisory signing, will be implemented.

Shoulder Rumble Strips

Rumble strips will be provided to mitigate the effects of non-standard lane and shoulder widths. The rumble strips will be implemented using profiled edge lines, due to the extent of I-90 roadways carried on structures, where ground-in rumble strips would not be desirable.

Enhanced Delineation and Signing

Lane visibility will be enhanced by replacing existing painted edge lines and other lane markings throughout the corridor with profiled edge lines and other enhancements to existing pavement markings. The latter could include enhancements to lane visibility in the I-90 lids and tunnels by using illuminated pavement markers. The feasibility of installing illuminated pavement markers in the lids and tunnels will be investigated further as a part of final design, including consideration of trade-offs with potential tunnel lighting enhancements. Additional roadway visibility enhancements within the lids and tunnels could include use of a linear delineation system attached to the face of the traffic barrier in locations where shoulders are of less than standard width. One example of a linear delineation system that could be used consists of aluminum panels 6-inches high by 30-inches long that are laminated with reflective sheeting and crimped in a sharp "wave" shape. The feasibility and specific types and application of linear delineation will be investigated as part of final design.

Existing signs will be replaced or refaced as required to meet current standards for reflectivity and to provide improved legibility for older motorists. The final design will include a survey of existing signs to determine which signs should be replaced or refaced. Additional illuminated guide signs westbound in the Mount Baker Ridge lid could give motorists more time to change lanes for the Rainier Avenue South and I-5 exits. The feasibility of illuminated guide signs to supplement existing signage in this and other locations within the tunnels and lids in the corridor will be investigated as part of final design. The feasibility of adding new or supplementing existing variable message signs will be investigated, including a survey of existing variable or dynamic message signs to determine the need for new or supplemental signs.

Enhanced Illumination

The feasibility of providing roadway illumination enhancements at enforcement/refuge areas and areas with reduced shoulder widths adjacent to general purpose traffic will be considered during final design. Enhancements to existing tunnel lighting systems will be investigated.

Enhanced Incident Management Program

Enhanced incident management will be provided on I-90 in the portions of the corridor with restricted shoulder widths. These areas include the Mount Baker Ridge tunnels and lid, the floating bridges, the First Hill lid, and the Mercer Island Central Business District. The focus of the increased service would be on the outer roadways. Barrier gates could be used on the HMM floating bridge where access is limited by the available bridge deck width and the feasible limits on deck widening. Final design will include consideration of barrier gates as a part of the development of enhanced incident management provisions.

Other Freeway Measures

An existing auxiliary lane on eastbound I-90 at the I-405 off-ramp will be extended west towards the Bellevue Way SE off-ramp. The limits of the auxiliary lane extension will be determined during final design.

Surface Street Operations

A warrant analysis will be performed to determine if installing a traffic signal at the intersection of East Mercer Way and the I-90 westbound on/off ramp would meet warrant criteria. If the location meets traffic signal warrants, the project will include installation of a traffic signal at this location to prevent I-90 westbound off-ramp queues from backing up onto the mainline. With a signal in place, the intersection would operate at LOS B during the 2025 PM peak hour, and the off-ramp would have sufficient capacity for westbound queues.

The westbound approach at the unsignalized intersection of 76th Avenue SE/I-90 westbound on-ramp/North Mercer Way will be changed to a left turn lane and a shared right and through lane. This improvement, which will only require re-striping of the westbound approach, will improve the AM peak period levels of service from LOS E to LOS B.

Pedestrian/Bicycle Access

To reduce the proximity impact of westbound auto and truck traffic operating closer to the shared-use pathway, screening will be provided on top of the 32-inch high traffic barrier. The impacts to be mitigated by screening are noted below.

- Wind buffeting due to passing traffic and/or gusting winds.
- Improved protection from roadway debris for bicyclists.
- Glare from on-coming traffic (present under existing conditions for westbound bicyclists in the winter months, but would be worsened with a reduced westbound outer roadway shoulder width).

The design of screening will include consideration of trade-offs between:

- Wind loads on the floating bridge,
- Maintenance issues including access for bridge inspection
- Safety and security issues for shared-use pathway users
- Reductions in access to the shared-use pathway as a refuge for motorists with disabled vehicles, and
- Aesthetic concerns including views from the shared-use pathway and from the adjacent roadway.

The addition of screening will decrease the effective width of the shared-use pathway. To mitigate this operational issue, rub rails will be installed on the railings on both sides of the pathway, or incorporated into the potential screening on the traffic barrier. Rub rails will reduce the potential for a cyclist to snag a bicycle handlebar in the balusters of the existing railing and the type "BP" railing, and will allow cyclists to ride closer to the railings.

Trade-offs involving screening and rub rails will be evaluated during subsequent design phases of the Project, including consultation with representatives of shared-use pathway user groups.

Visual Resources

- Night lighting resulting in glare or light spillover impacts will be kept to a minimum; however, night construction will be required to minimize impacts to roadway users.
- Mitigation areas for vegetation that cannot be preserved or restored will consist of additional plantings to enhance existing landscaped areas within the I-90 corridor between I-5 and I-405.
- *I-90 Architectural Design Standards* (WSDOT, Revised Edition, December 1986) will be followed for all visual elements including walls and bridge structures, exposed concrete texture and color, lighting, and signing.
- Restoration of roadside functions such as guidance and navigation, screening, and roadway buffering will be done in accordance with the WSDOT *Roadside Manual* where these functions would be affected by the Project.

Water Resources

These measures will be implemented during operation:

- All stormwater runoff from new impervious surfaces will be treated according to the most recently revised WSDOT *Highway Runoff Manual*. The stormwater runoff will discharge into new stormwater treatment facilities for water quality treatment prior to discharge at existing outfall locations. The new stormwater treatment facilities will provide water quality treatment for up to 140 percent of the new impervious area.
- Road maintenance practices will conform to guidance in the most recently revised WSDOT *Highway Runoff Manual*. Practices will address disposal of highway-generated waste (street sweepings, catch basin cleanings), maintenance of stormwater facilities (e.g., channel conveyance capacity), and snow and ice control operations.
- Any hazardous materials spills that occur on the roadway will be cleaned up according to the SPCC.
- Drainage structures (culverts, ditches) built or replaced for the project will be designed according to the most recently revised WSDOT *Hydraulic Manual* design guidance.

3. Construction/Short-Term mitigation

Surface Street Operation

- During construction, information will be distributed to provide drivers with advance notice of road closures and detours. Detour signs will be erected during road closures.
- WSDOT will specify in the construction documents specific dates, times and/or locations when or where construction activities will be prohibited. During construction of the direct access ramps to Mercer Island, road closures will not occur on Island Crest Way and 80th Avenue SE at the same time. This will ensure that access to the Mercer Island CBD is not adversely impacted.

Pedestrian/Bicycle Access

If construction activities on the HMM floating bridge require temporary closure of the shared-use pathway, shuttle service will be provided for pedestrian and bicycle users of the shared-use pathway on the HMM floating bridge. Shuttles could be provided on existing buses, deadheading buses, or with dedicated vehicles.

In addition, a shared-use pathway detour route could be provided on the I-90 center or eastbound roadways. This route could supplement the dedicated shuttle service to accommodate weekend recreational traffic, or could be in lieu of a shuttle. The need for and feasibility of detour route provisions will be evaluated during final design, including consultation with representatives of shared-use pathway user groups.

Visual Resources

- Night construction will be required to minimize impacts to roadway users.
- Vegetation, including trees, will be preserved or restored where feasible after construction.

Air Quality

The following controls will be implemented to mitigate air quality impacts where applicable to the specific construction location and activity:

- Control dust emissions by using measures such as spraying water or other dust suppressant on bare surfaces and covering any soils that may need to be transported to, from, and within the construction area.
- Cover soil/materials during transport to minimize wind-borne particulate emissions.
- Minimize the size of the construction area, cover exposed soil and re-vegetate disrupted areas as soon as possible.
- Construct wind barriers to reduce wind velocity over exposed earth.
- Restrict the speed of construction vehicles when operating in areas of exposed earth.
- Use wheel washers to remove mud from construction vehicles prior to exiting site (reduce the potential emissions from re-entrained particulate matter).
- Clean road surfaces regularly to reduce re-entrained particulate matter.

- Locate construction equipment away from sensitive populations and building air intakes. Locate truck/equipment staging zones to minimize impacts to the public, especially the elderly and the very young.

Noise

Construction activities will include the construction industry's best management practices to reduce construction noise at nearby receptors along I-90. Construction activities will comply with local construction noise regulations. Construction mitigation will be incorporated into construction plans and contractor specifications in the construction contract. The following construction noise mitigation measures will be implemented.

- Engines of construction equipment will be equipped with adequate mufflers, intake silencers, or engine enclosures.
- The quietest equipment available will be used where feasible.
- Construction equipment will be turned off during prolonged periods of nonuse.
- Contractors will be required to maintain all equipment and train their equipment operators.
- Stationary equipment will be located away from receiving properties where feasible.
- Where stationary equipment must be located close to residences, temporary noise barriers or curtains will be constructed around the equipment to decrease noise levels at the nearby sensitive receptors.

Biological Resources

- Replacement of the outfall in Mercer Slough is required. There is a potential for short-term disturbances to wetlands during in-water construction activities. Construction will be conducted during the appropriate in-water work window for the Mercer Slough. The work window for the Mercer Slough is generally between July 16 and September 1, and will be established by WDFW. All work will be completed over one construction season. As of February 2011, the outfall replacement work and required mitigation has been completed.

- Construction staging for the replacement of the Mercer Slough outfall will occur from dry upland locations. A temporary access road will be placed through the wetlands adjacent to Mercer Slough in the vicinity of the outfall. The access roads will be removed and the shoreline and adjacent wetlands will be restored to preexisting conditions or better.

- New piles for the Mercer Slough outfall replacement will be installed using an impact pile driver. The work area will be isolated by a cofferdam installed along the entire length of the existing pipe, effectively reducing pressure vibrations. The total area enclosed in the cofferdam will be minimized to the greatest extent feasible. The cofferdam will be removed and the shoreline and adjacent wetlands will be restored to preexisting conditions or better.

- Prior to the removal of the existing Mercer Slough outfall pipe, a temporary bypass system will be installed to divert existing pipe flows around the established work areas.

Riprap will be placed around the water end of the Mercer Slough outfall to dissipate the energy of the water leaving the outfall and to prevent shoreline erosion.

- Once the new Mercer Slough outfall pipe is in place, soil will be placed back on top of the new Mercer Slough outfall pipe in the upland areas to the original ground contour.
- Appropriate in-water work BMPs will be followed to minimize the effects to fish and fish habitat.
- Revegetation and landscaping efforts for the I-90 corridor will not use noxious weed species in either seed or plant mixes. In areas disturbed by construction, measures will be taken to prevent noxious weeds from colonizing.

Water Resources

The following measures will be implemented during construction:

- The project will be designed to minimize erosion and to prevent sediment from leaving the construction area. BMPs will be employed to control erosion and sediment. These BMPs are outlined in detail in the most recently revised WSDOT *Highway Runoff Manual*.
- The best available design practices will be used to maintain existing hydrologic function and drainage patterns based on site geology, hydrology, topography, and practicability.
- The project will provide a Spill Prevention, Control, and Countermeasures (SPCC) Plan for control of construction-related pollutants (such as petroleum products, lubricants, fuel, and oils). BMPs for the SPCC Plan are detailed in the *Highway Runoff Manual*. WSDOT will prepare stormwater pollution prevention, including erosion and sediment control, plans in accordance with guidance in the 2004 *Highway Runoff Manual*.
- Construction equipment will be maintained during the project construction phase in order to prevent spill events, or chronic impacts, such as oil or lubricant drips from vehicles.
- Temporary erosion and sediment control (TESC) plans will be implemented to minimize impacts to Lake Washington during construction. These may include silt fences, straw bales, and any other means of controlling and filtering stormwater prior to discharge into Lake Washington.
- Spill prevention plans will be implemented to minimize impacts to Lake Washington during construction. These could include booms in the water surrounding vessels/barges or other related construction to minimize and/or prevent spills of petroleum products or other pollutants.
- If in-water work is required, BMPs will be implemented to reduce or eliminate the potential for the release of sediments and water pollutants associated with road construction to the slough and lake.

Energy

The following mitigation measures are recommended to reduce energy consumption:

- Limit the idling of construction equipment and employee vehicles.
- Plan to minimize double handling of fill and construction materials.

- Maintain equipment in good condition.
- Recycle materials generated during construction and use recycled materials.
- Consult with gasoline stations in the area to ensure that adequate gasoline supplies are available during and near the most intensive construction activities.
- Encourage carpooling or vanpooling among construction workers.
- Locate construction staging areas as close as possible to work sites.

Geology and Soils

The duff layer (loose leaf matter, needles, bark, and other easily identified plant parts), native topsoil, and natural vegetation will be retained in an undisturbed state where feasible.

- The duff layer (loose leaf matter, needles, bark, and other easily identified plant parts), native topsoil, and natural vegetation will be retained in an undisturbed state where feasible.
- The extent of clearing operations and phase construction operations will be minimized.
- Before reseeding a disturbed soil area, soils will be amended with compost wherever topsoil has been removed.
- Slope length and steepness will be minimized.
- Runoff velocities will be reduced to prevent channel erosion.
- Erosion and run-on/runoff control methods and structures will be specified as engineering controls and practices in plans and specifications.

Public Services

The following measures will be implemented during the construction phase:

- To the extent feasible, shoulders will be provided on the I-90 roadways during construction to facilitate passage of emergency vehicles during congested periods.
- Personnel controlling the movement of vehicles in areas where construction works are being carried out will give priority to emergency vehicles over other vehicles. Emergency vehicles will only be allowed to proceed when it is safe to do so.
- Emergency vehicles will not be restricted from responding to emergencies on streets where detours are in effect, provided it is not unsafe for them to proceed.
- Signs will be erected to inform users of detours.
- Construction staging plans will include a schedule of closures of Island Crest Way/77th Avenue SE and 80th Avenue SE to avoid closing them at the same time.
- Emergency service providers will be provided with regular updates on the progress of the construction activities and adequate notice of any proposed road closures or lengthy traffic delays.
- Construction equipment will not be parked in front of fire hydrants.

Utilities

The following measures will be implemented during the construction phase:

- Prior to any construction activities or pre-construction excavation, utilities will be located using a locator service. Representatives of each utility will be contacted and involved in the process to ensure that utility infrastructure is not damaged and that services are not interrupted.
- Existing utilities will be protected and kept in operation.
- If necessary, temporary luminaires and traffic signals will be established to maintain safety and traffic flow along the corridor.
- Temporary services will be constructed prior to shut off and/or relocation of existing utility services, where necessary.

